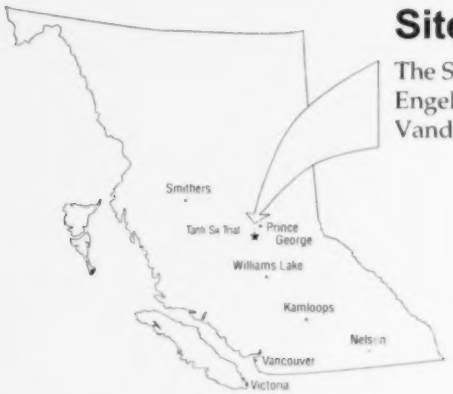
Regeneration Programs Section

Silviculture Branch, 31 Bastion Square, Victoria, B.C. V8W 3E7

Regeneration Notes #2

MICROSITE PLANTING MAKES A DIFFERENCE

Sx Trial Results



Site

The Sx Trial is located in the Nechako variant of the moist, very cold Engelmann Spruce-Subalpine Fir subzone (ESSFmv1) in the Vanderhoof Forest District. Soils are moderately fine in texture.

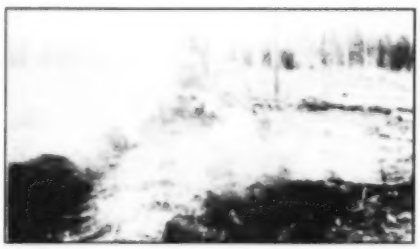
Problem

When the deep snowpack finally melts in late spring, the dense subsoil restricts runoff. As a result, the saturated upper soil layers remain cold well into the early summer. This restricts root growth and shortens the growing season. In addition, when the fine-textured soils dry out, the ground hardens, once again restricting root growth.

Trial site – April 25, 1989

Objective

To study the impact of microsite planting on Lodgepole pine (Pli) seedling performance.



Background

Disc trenchers are commonly used on forested sites in B.C. They employ rotating discs with downward pressure to produce two parallel trenches that have a mixed mineral and organic sidecast. After disc trenching, several planting positions (microsites) are available to the planter.

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Methodology

Half of the trial area was burned (fall 1986), and disc trenched (fall 1987). The unburned portion of the trial was disc trenched (fall 1987). The untreated ground between trenches was designated as the "control." The site was planted in the spring of 1988 with Pli PSB 211 stock. **This trial examines four distinct microsites: untreated (control), burned only, burned/trench microsite and burned/hinge microsite** (Figure 1). The berm was not planted in this trial.

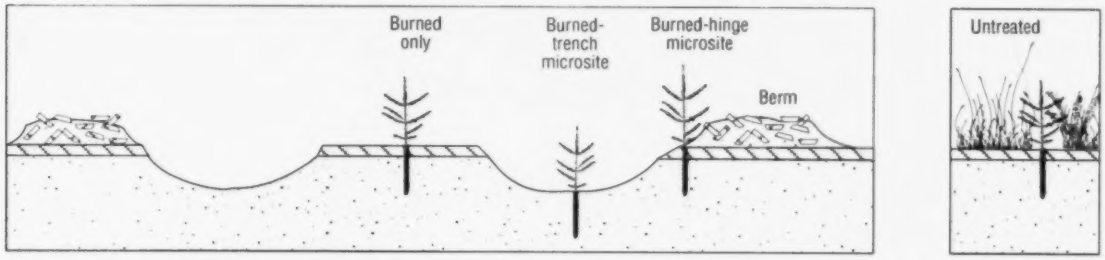

FIGURE 1. Microsites used for planting

Results

Survival was excellent on all treatments three years after outplanting. Growth is shown in Figures 2 and 3.

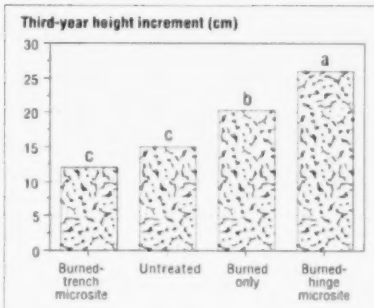

FIGURE 2. Third-year height increment

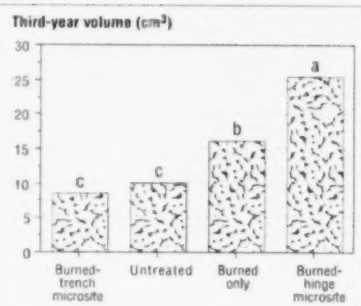

FIGURE 3. Third-year volume

Values for each growth measurement followed by the same letter were not significantly different at p = 0.05.

Discussion

Seedling performance was best on the burned/hinge microsite. In contrast, seedling performance was poorest on the burned/trench microsite (Figures 2 and 3).

Conclusion and Recommendations

Microsite selection may have a major effect on early seedling performance. This trial shows that all of the benefits "bought" by good site preparation can be lost by poor microsite selection. Forest managers should ensure that quality microsites are available, and that these microsites are carefully selected during plantation establishment.

For more information, contact:

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